

Claims

[c1] What is claimed is:

1. A transceiver module for a fiber-optic communications system comprising:

- a socket;
- a transceiver for inserting into the socket, the transceiver having an optical device for processing photoelectric signals;
- a locking device for securing the transceiver in the socket, the locking device having a first coupling mechanism installed on the socket and a second coupling mechanism installed on the transceiver for engaging with the first coupling mechanism; and
- an unlocking device rotatably installed on the transceiver for separating the first and second coupling mechanisms of the locking device, the unlocking device having a first end for moving the first coupling mechanism;

wherein when the unlocking device is rotated, the first end will move the first coupling mechanism to release the second coupling mechanism from the first coupling mechanism so that the transceiver is capable of being pulled out of the socket.

[c2] 2.The transceiver module of claim 1 wherein the unlocking device further comprises a second end and a pivot formed between the first end and the second end, and when the second end is pushed downward, the first end will move upward so that the transceiver is capable of being pulled out of the socket.

[c3] 3.The transceiver module of claim 1 wherein the first coupling mechanism is an elastic piece with an opening, the second coupling mechanism is a protrusion protruding from a surface of the transceiver, and when the unlocking device is rotated, the first end will push the elastic piece upward so that the transceiver is capable of being pulled out of the socket.

[c4] 4.The transceiver module of claim 3 wherein when inserting the transceiver into the socket, the protrusion will lift up the elastic piece and will fit into the opening so as to connect the transceiver with the socket.

[c5] 5.The transceiver module of claim 1 wherein the optical device comprises an

$$\begin{aligned} & \frac{1}{\Gamma(\alpha)} \int_0^t (t-s)^{\alpha-1} f(s) ds = \frac{1}{\Gamma(\alpha)} \int_0^t (t-s)^{\alpha-1} \left(\frac{1}{\Gamma(\alpha)} \int_0^s (s-\tau)^{\alpha-1} f(\tau) d\tau \right) ds \\ & = \frac{1}{\Gamma(\alpha)^2} \int_0^t \int_0^s (t-s)^{\alpha-1} (s-\tau)^{\alpha-1} f(\tau) d\tau ds = \frac{1}{\Gamma(\alpha)^2} \int_0^t \int_\tau^t (t-s)^{\alpha-1} (s-\tau)^{\alpha-1} f(\tau) ds d\tau \\ & = \frac{1}{\Gamma(\alpha)^2} \int_0^t \left(\int_\tau^t (t-s)^{\alpha-1} (s-\tau)^{\alpha-1} ds \right) f(\tau) d\tau = \frac{1}{\Gamma(\alpha)^2} \int_0^t \left(\frac{(t-\tau)^\alpha - \tau^\alpha}{\alpha} \right) f(\tau) d\tau \\ & = \frac{1}{\Gamma(\alpha)^2} \int_0^t (t-\tau)^{\alpha-1} \tau^{\alpha-1} f(\tau) d\tau = \frac{1}{\Gamma(\alpha)^2} \int_0^t (t-\tau)^{\alpha-1} \tau^{\alpha-1} f(\tau) d\tau = \frac{1}{\Gamma(\alpha)^2} \int_0^t (t-\tau)^{\alpha-1} \tau^{\alpha-1} f(\tau) d\tau \end{aligned}$$